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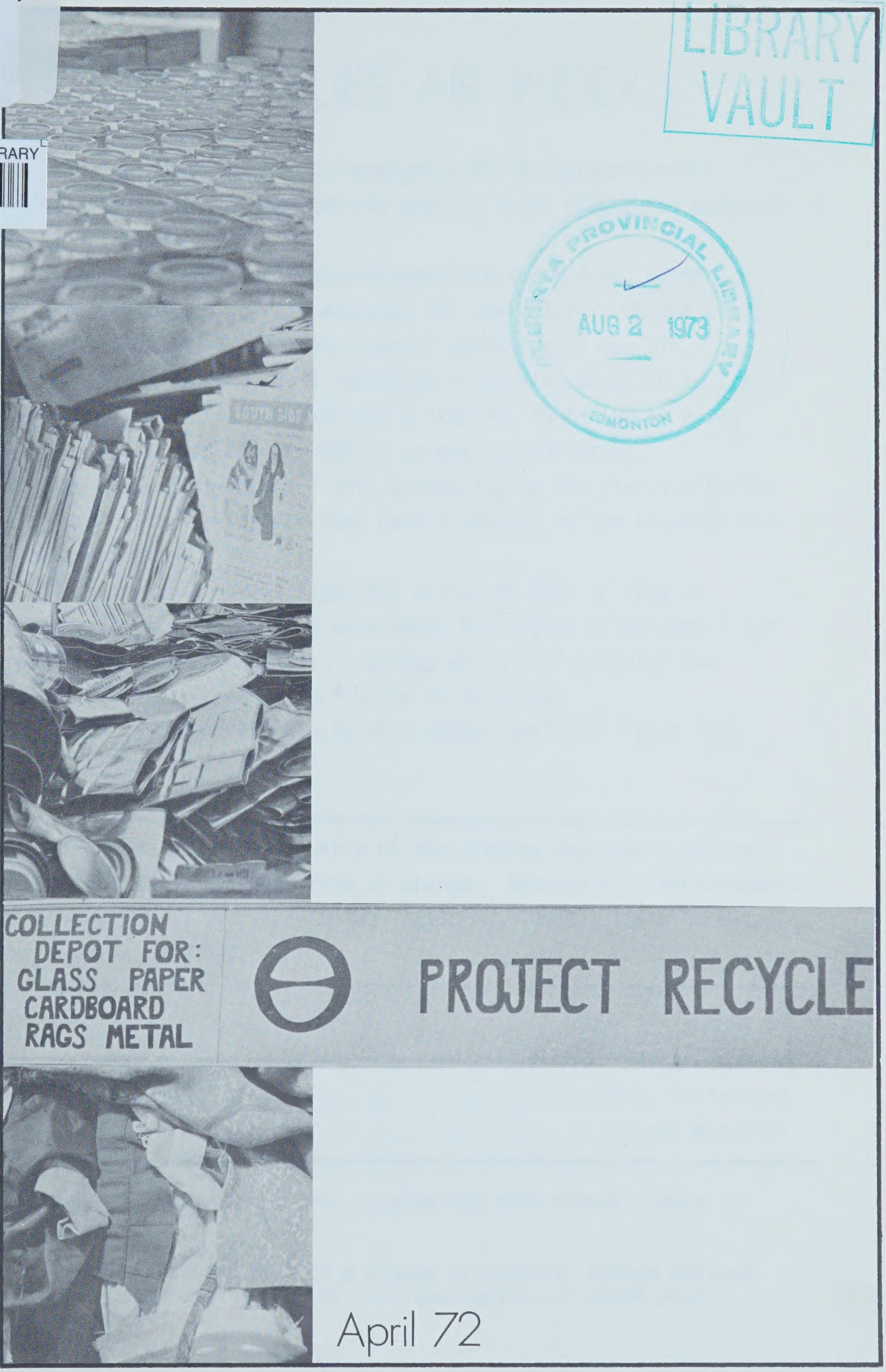

April 72

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DEPARTMENT ISSUES AIR INDEX

The Department of the Environment's Air Pollution Control Section has been issuing a combined air quality index (CAQI) for Edmonton since March 27, 1972.

The index takes into consideration monitored total oxidant, total oxides of nitrogen, carbon monoxide and smoke levels in the city, and, as a yardstick, will tell the overall condition of the air.

A reading of zero to 25 indicates clean air; 26 to 50 is light air pollution; 51 to 75 is moderate air pollution; 76 to 100 is heavy air pollution and a reading over 100 is severe air pollution.

The air pollution index will eventually be correlated with the meteorological conditions, since they have a bearing on the accumulation of the pollutants.

In order to know what specific action to take in case of adverse pollution conditions, the department has signed an agreement for an air pollution source inventory, a survey which will pinpoint the magnitude of all the sources of pollution in the city.

Index readings for Calgary will become available later this year.

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April 1972 VOLUME 2 NUMBER 1

Honourable W.J. Yurko
Minister

Dr. E.E. Ballantyne
Deputy Minister

NOTE: Volume 1 of Environment News is complete with eleven issues.

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Red Deer aerator claimed successful

An experimental project to overcome the perennially poor winter oxygen levels in the Red Deer River proved successful during limited operation during the past winter.

The river experiences critical dissolved oxygen levels during ice cover, and due to low flows, it is extremely sensitive to pollution loadings.

To alleviate this, the city of Red Deer has been ordered to install secondary sewage treatment by June 1973, a device called a "U-tube" was put into operation until the treatment plant is completed.

This U-tube consists of a 39-foot-deep hole in the river bank. It contains two vertical pipes; water falls down one and is forced back up the other.

Compressed air is bubbled into the water stream on the way down, and increased pressure at the bottom of the hole causes oxygen to be forced into the water.

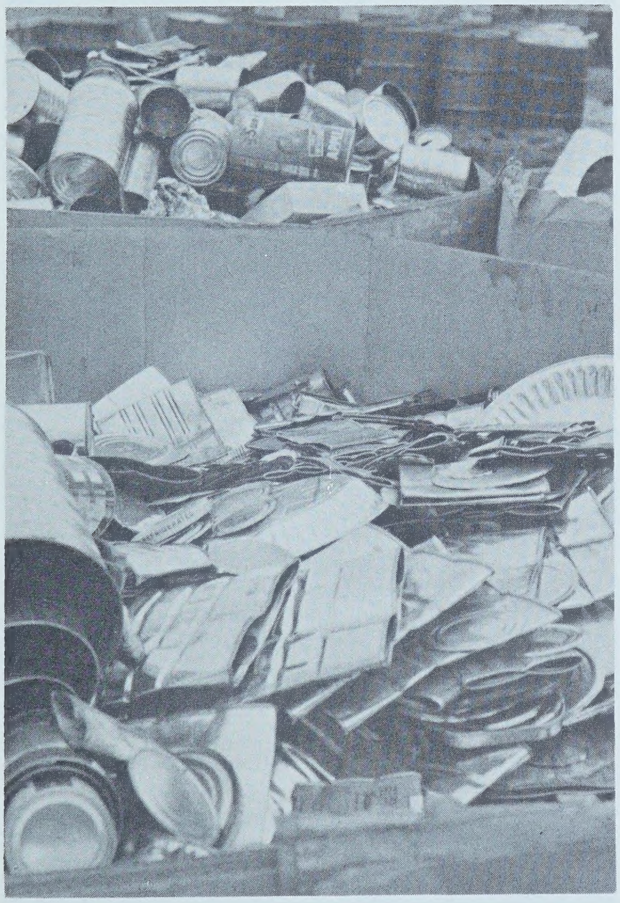
The river is dammed to channel the water into the U-tube.

Automatic monitors are installed upstream and downstream of the device to record changes in the quality of the water.

Preliminary tests have shown an increase in oxygen in the river water of up to 70 per cent, and this should be increased with slight modification before the project again goes into operation next fall. It will only be operated during times of ice cover, since there is no oxygen problem when the river is open.

This project is the only full-scale operation of its kinds in North America. The U-tube concept was suggested by Professor P.H. Bouthillier of the Department of Civil Engineering at the University of Alberta, and it was designed and constructed by the Alberta Department of the Environment.

Calgary group recycling household waste



Metal cars are shredded and sold to a Calgary scrap metal dealer.

Talk about recycling has turned to action in Calgary with a project of the EcoCentre to collect, sort, and find markets for common household wastes.

Project Recycling is a three-month experiment funded by the federal government's Local Initiatives Program. EcoCentre is a Calgary based, volunteer-action environmental group.

The purpose of the project is to study recycling, to begin the actual recycling of glass, metal, paper, cardboard and cloth, and to study the public's reaction to, and demands for, a recycling program in Calgary.

The project started in mid-February, and will run until the end of May. The $46,000 LIP grant provides employment for 26 persons. Nineteen of these are working on collecting and sorting material. Three are employed in various areas of research, two in public relations and one each in sales and accounting.

In the research area, one person is working on gathering information on recycling programs carried out throughout the world. A chemist is researching the feasibility of converting waste material to other useful products, and a social scientist is gauging public reaction, and looking for methods of stimulating the public to become involved in the program.

At present, the project is collecting weekly some 15 tons of paper, three tons of glass, one ton of metal and eight tons of cloth, and these figures will continue to climb as the public becomes more aware of the project.

Calgarians are urged to deposit their waste at one of three depots in the city: the Macleod Mall, the Market Mall, or the main warehouse at 3rd Street and 3 Avenue S.E., the former city dog pound which was loaned to Project Recycling by the city.

They are asked to separate the refuse, and prepare it for recycling by cleaning tins, removing the ends and paper labels, and flattening them. They are also asked to clean the jars and bottles, and remove any metal rings or tops.

As a pilot project, garbage is collected from a thousand selected households in four areas of the city.

Collections are made one day before the city garbage collection.

All the material is brought to the main warehouse, where it is sorted and prepared for shipping. Paper is bundled and shipped to Iko Industries in Calgary, where it is manufactured into roofing material.

Glass is sorted by color, and crushed, then shipped to Dominion Glass in Redcliff, near Medicine Hat, where it is used in the production of new glass bottles and jars.

Metal, such as cans, is shredded, and sold to a Calgary scrap dealer.

Cloth is made into bales weighing from 400 to 800 pounds, and shipped to Vancouver. There it is sorted by a cloth dealer, who sells it to Japanese manufacturers of activated charcoal, used in many industrial processes. Some cloth is also sold for rags.

Les Silver, a Project Recycling employee, points out that the money realized from the sale of this material pays for the collection and shipping, but not for salaries.

However, he is convinced that the project could be making money or at least breaking even if the industries accepting the material were located in Calgary, since freight charges take most of the income.

Glass, such as bottles and jars, is fed into a crusher, and the broken pieces or then shipped to a Redcliff glass plant where it is made into new glass containers.

"If these industries were located here, they could provide jobs, and add a positive aspect to the environment at the same time," he notes.

He also states that almost half of the waste collection and disposal cost could be saved if all possible material were recycled in Calgary.

"And this would be a saving of over $1 million a year."

When the project is completed at the end of May, every employee will be required to hand in a report on his activities. A cost analysis study will be done on the operation, and special reports compiled on such aspects as research, public relations and sales. These reports will be available in late June from EcoCentre Calgary, Room 247, 803 - 1st Street S.E., Calgary.

What happens after May 31? Mr. Silver points out that there are four options open to the project.

It could continue to operate as it is now with funding from the senior levels of government, and this is one avenue being investigated now.

Project Recycling could also continue on its present basis with financial aid from private business interests.

Cloth, much of it discarded clothing, is sorted. Some is sold as rags, the rest goes into a baler.

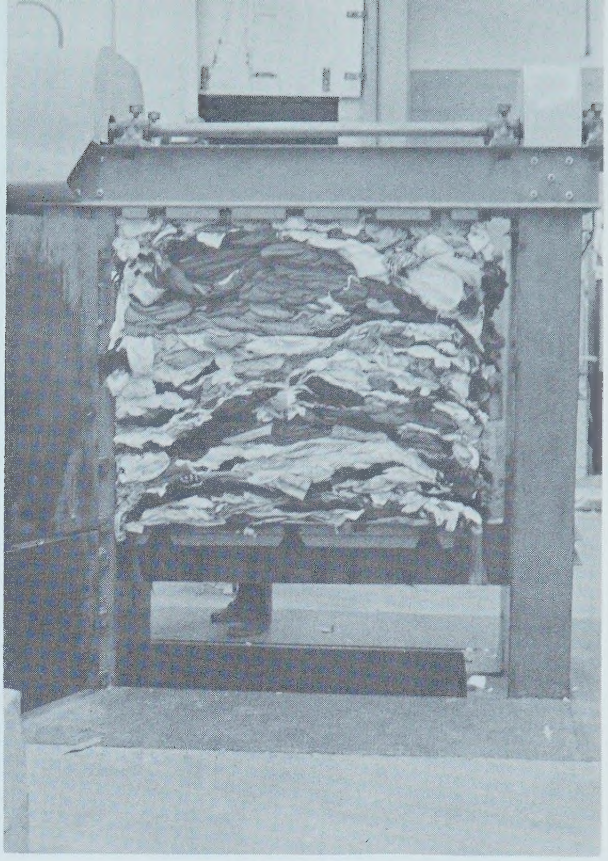
Or private industry could take over the operation. The project staff does not feel this to be an ideal option. They would like to see it continue as it is, with some outside funding, until the project can stand on its own feet. Any then any profits made could be applied to some form of environmental control. According to Mr. Silver, "this is what we would like to see happen."

The fourth option, and one the project people don't like to think about too much, is that it fold at the end of May.

"We have to be realistic. Unless something comes up, this may happen," says Mr. Silver. "But it would be ridiculous to see the project organized and then fold."

"We have tried to create in the consumer a habit, not a fad. If we fold, we may have done harm instead of good, because all we have done is create a fad that lasted for a few months. And it may be harder to start up again at some future date, because people will have lost some confidence in a recycling program."

"Householders are behind us. They are separating and bringing in



Bales weigh up to 800 pounds, and are shipped to Vancouver for export to Japan.

Newspaper and cardboard is used by a Calgary firm in the manufacture of roofing material.

material. If we have to tell them we're going out of business, they will be pretty disappointed."

Whatever the outcome of their own program the Project Recycling staff is confident they have made a positive impact.

"Hopefully we will encourage other communities to have a look at recycling project," Mr. Silver says. "Recycling will have to become a way of life, and Calgary and Alberta have a great opportunity to be in the foreground of the recycling scene."

PLANTS: how they benefit man

Summer is fast approaching. And with it the time for gardening and planting, whether on a large scale on the farm, or on a smaller scale in city and town gardens.

In either case, plants do make a very positive contribution to our environment, and to man. They are listed below as compiled by Dr. John Carew, horticulturist at Michigan State University. (Reprinted from the Arborists News, International Shade Tree Conference Inc., Vol. 36, No. 9, September 1971)

- Noise protection. Plants act like acoustical tile and absorb sound. This makes them useful along highways.
- Dust filters. Plants filter dust and pollution particles

from air. A tree's leaf surface may be 10 times greater than the area it shades.

- Protection from sun.

- Protection from winds. Tree plantings reduce the effect of wind and help reduce wind erosion.

- Privacy. Some plants make attractive backyard fences or can be used to hide undesirable sights such as junkyards, dumps, or used car lots.

- Air conditioning. The water that evaporates from plant leave can cool air as much as 15 to 20 degrees. In a recent test, air temperature above synthetic turf at Michigan State University's Spartan Stadium was 93 degrees but was only 85 degrees above nearby natural grass areas. Home owners have found that green concrete or plastic lawns are too hot to enjoy.

- Better soil. Plants help keep soil porous and absorbent so that it soaks up rain. A 1-inch rainfall on a 30-acre paved parking lot produces over 600,000 gallons of runoff water. Areas of ornamental plants in these parking lots would help to absorb this water and avoid excessive runoff.

- Therapeutic agents. Living plants provide an effective therapeutic atmosphere for the physically and mentally retarded, for prison inmates, and for patients in hospitals.

- Wildlife habit. Plants provide both needed cover and food for birds and animals.

- Food and fibre for man.

- Attitude changer. "In one Michigan city, an industrial plant with no landscaping and unattractive grounds had an unmanageable litter problem while employees of a beautifully landscaped plant were careful not to litter the grounds."

Gardeners urged to take care in pesticide use

As many a backyard gardener starts to scratch the soil this time of year, his thoughts go back to last year's successes and failures, and he becomes determined that this year will be better.

Often, this determination will lead him to include in his plans the use of pesticides for the control of undesirable insects, plants and diseases.

L.K. Peterson, head of the agricultural chemicals branch of the Department of the Environment, issues this reminder to gardeners to use the proper pesticides.

This means that the pests should be carefully identified, and a subsequent decision made to ensure adequate control with a minimum residue in plants and soil.

Mr. Peterson points out that certain chemicals remain in the soil a number of years after they have been applied. Therefore, the past history of chemical use in the garden should dictate what is grown this year.

He points out that if chlorinated hydrocarbons such as aldrin, heptachlor or chlordane were used in one area, carrots, for example, shouldn't be planted there the next year because they readily pick up residue from these pesticides. The above chemicals are commonly used for the control of root maggots and cutworms.

Mr. Peterson stresses that before using any pesticides, read the label carefully, and make sure the pesticide is suitable for the crop and the pest.

The waiting period prescribed between the treatment of crops and consumption should be carefully observed.

The following guidelines for pesticide use should be carefully observed by everyone using garden chemicals:

- follow label directions on the container for mixing and applying insecticides. Use the correct dosage for the pest involved. Lower than recommended rates may not be effective while heavier rates are wasteful and may damage the crop or cause an insecticide residue problem in the environment as well as in the crop.
- Always use the protective clothing or other safety equipment and application procedures as stated on label directions.
- Most modern insecticides kill by stomach and contact action, therefore complete and uniform coverage with dusts or sprays makes them effective against both leaf-eating and sap-sucking pests.
- Avoid application of insecticides in wet, hot or windy conditions. Adjacent plants and foliage may become contaminated with the chemical that is blown or washed from the treated plants.
- Do not use insecticides in sprayers which have had 2,4-D in them. Small amounts of 2,4-D left in the sprayers can be very injurious to some garden plants.
- Insecticides may cause poisoning in humans if they are eaten or drunk, absorbed through the skin, or inhaled as dusts or vapours. Poisoning after exposure to these chemicals may show up as one or several of the following symptoms: hyperexcitability, instability, headache, pin-point pupils, blurred vision, tremors, convulsions and vomiting.
- First Aid Treatment: Call a physician immediately or The Poison Control Centre listed in your local telephone directory. Provide the name of the insecticide and the antidote on the container; if poison is swallowed, induce vomiting with warm salty water; if spilled on clothing, remove, and wash skin thoroughly with soapy water; keep patient warm and quiet.
- Always store pesticides under lock and key out of reach of children, pets and irresponsible people.
- Take care that children cannot reach poisons that are being used.
- Dispose of empty containers safely. Seal them in plastic bags and dispose of them through the municipal sanitation department.

- Use the most recent insecticide recommendations and restrictions.
- Follow label directions at all times.

A pamphlet outlining various insects, the damage they do, and the method of control, is available from your local District Agriculturist, or Department of Agriculture extension offices throughout the province. Ask for the publication Control of Garden Pests.

Also available are a Guide to the Control of Houseflies, and a Guide for the Control of Mosquitoes.

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